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Lecture By=Arkesh Jaiswal

Subject ⇒ Javascript

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Javascript

JavaScript is the world's most popular programming language.

JavaScript is the programming language of the Web.

Why Study JavaScript?

JavaScript is one of the 3 languages all web developers must learn:

1. [HTML](#) to define the content of web pages
2. [CSS](#) to specify the layout of web pages
3. JavaScript to program the behavior of web pages

JavaScript Syntax

JavaScript syntax is the set of rules, how JavaScript programs are constructed:

```
var x, y, z;           // Declare Variables
x = 5; y = 6;          // Assign Values
z = x + y;             // Compute Values
```

JavaScript Values

The JavaScript syntax defines two types of values:

- Fixed values
- Variable values

Fixed values are called Literals.

Variable values are called Variables.

JavaScript Literals

The two most important syntax rules for fixed values are:

1. Numbers are written with or without decimals:

10.50

1001

2. Strings are text, written within double or single quotes:

"John Doe"

'John Doe'

JavaScript Variables

In a programming language, variables are used to store data values.

JavaScript uses the `var` keyword to declare variables.

An equal sign is used to assign values to variables.

In this example, x is defined as a variable. Then, x is assigned (given) the value 6:

```
var x;
```

```
x = 6;
```

JavaScript Operators

JavaScript uses arithmetic operators (`+` `-` `*` `/`) to compute values:

(5 + 6) * 10

JavaScript uses an assignment operator (`=`) to assign values to variables:

```
var x, y;
```

```
x = 5;
```

```
y = 6;
```

JavaScript Expressions

An expression is a combination of values, variables, and operators, which computes to a value.

The computation is called an evaluation.

For example, `5 * 10` evaluates to 50:

```
5 * 10
```

Expressions can also contain variable values:

```
x * 10
```

The values can be of various types, such as numbers and strings.

For example, `"John" + " " + "Doe"`, evaluates to "John Doe":

```
"John" + " " + "Doe"
```

JavaScript Keywords

JavaScript keywords are used to identify actions to be performed.

The `var` keyword tells the browser to create variables:

```
var x, y;
```

```
x = 5 + 6;
```

```
y = x * 10;
```

JavaScript Comments

Not all JavaScript statements are "executed".

Code after double slashes `//` or between `/*` and `*/` is treated as a comment.

Comments are ignored, and will not be executed:

```
var x = 5;    // I will be executed

// var x = 6;    I will NOT be executed
```

JavaScript Operators

Example

Assign values to variables and add them together:

```
var x = 5;           // assign the value 5 to x

var y = 2;           // assign the value 2 to y

var z = x + y;       // assign the value 7 to z (x + y)
```

The assignment operator (`=`) assigns a value to a variable.

Assignment

```
var x = 10;
```

The addition operator (+) adds numbers:

Adding

```
var x = 5;
```

```
var y = 2;
```

```
var z = x + y;
```

The multiplication operator (*) multiplies numbers.

Multiplying

```
var x = 5;
```

```
var y = 2;
```

```
var z = x * y;
```

JavaScript Arithmetic Operators

Arithmetic operators are used to perform arithmetic on numbers:

Operator	Description
+	Addition
-	Subtraction

*	Multiplication
**	Exponentiation
/	Division
%	Modulus (Division Remainder)
++	Increment
--	Decrement

JavaScript Assignment Operators

Assignment operators assign values to JavaScript variables.

Operator	Example	Same As
=	x = y	x = y
+=	x += y	x = x + y

<code>--</code>	<code>x -= y</code>	<code>x = x - y</code>
<code>*=</code>	<code>x *= y</code>	<code>x = x * y</code>
<code>/=</code>	<code>x /= y</code>	<code>x = x / y</code>
<code>%=</code>	<code>x %= y</code>	<code>x = x % y</code>
<code>**=</code>	<code>x **= y</code>	<code>x = x ** y</code>

The addition assignment operator (`+=`) adds a value to a variable.

Assignment

```
var x = 10;
```

```
x += 5;
```

JavaScript Comparison Operators

Operator	Description
<code>==</code>	equal to
<code>===</code>	equal value and equal type
<code>!=</code>	not equal

>=

greater than or equal to

<=

less than or equal to

?

ternary operator

MCQs

1.What keyword lets you define variables in JS?

A = var

B = variable

C = data

2.Why is JS used in the browser?

A = for web page structure

B = for web page design

C = for webpage behavior/interaction

3.How do you reach the console in our browser?

A = Inspect page > console tab

B = Console shows up in the web page display area

4.Is Java and JavaScript the same?

A = True

B = False

Questions for self practice / CC for the day

<https://au-assignment.s3.ap-south-1.amazonaws.com/cc-52b26c79-4710-49ff-8b5e-c2d455516ba9.pdf>

JavaScript Reference Book

<http://59edpsf327.pdcn5.top/dl2.php?id=158299863&h=47173801a61a856470e6dcb5b91ad897&u=cache&ext=pdf&n=Javascript%20javascript%20for%20beginners%20-%20learn%20javascript%20programming%20with%20ease%20in%20half%20the%20time%20-%20everything%20about%20the%20language%20coding%20programming%20and%20web%20pages%20you%20need%20to%20know>